

Listing of Claims:

1. (Currently amended) A device activated by biometric authentication, comprising:
a biometric sensor configured to obtain an internal, sub-dermal physiological characteristic of a user from which an internal, sub-dermal biometric marker of said user may be determined, said biometric sensor comprising; [[and]]
an energy emitter configured to emit an energy signal toward said user,
and
an energy sensor to detect an energy signal returned from said user responsive to said emitted energy signal; and
a memory module in communication with said biometric sensor comprising a biometric profile of an authorized user of said device,
wherein said device is configured to measure said internal, sub-dermal physiological characteristic of said user using said biometric sensor, to determine an internal, sub-dermal biometric marker of said user therefrom, and to authenticate said user if said internal, sub-dermal biometric marker corresponds to said biometric profile of said authorized user of said device.
2. (Currently amended) The device activated by biometric authentication of claim 1, ~~wherein said biometric sensor further comprises:~~
~~an energy emitter; and~~
~~an energy sensor~~
wherein said biometric marker corresponds to an internal, non-volitional physiological process occurring within said user.
3. (Currently amended) The device activated by biometric authentication of claim ~~[[2]]~~1, wherein said biometric sensor further comprises an activation sensor.

4. (Currently amended) The device activated by biometric authentication of claim [[2]]1, wherein said biometric sensor further comprises a translator whereby an energy signal received from said energy sensor [[are]] is translated into an electronic signal used to determine said internal, sub-dermal biometric marker of said user ~~into a biometric profile~~.
5. (Currently amended) The device activated by biometric authentication of claim [[2]]1, wherein said energy emitter emits energy in the form of a light wave.
6. (Currently amended) The device activated by biometric authentication of claim 5, wherein said light wave is infra red light, ultraviolet light, nonvisible light, or visible light.
7. (Currently amended) The device activated by biometric authentication of claim [[2]]1, wherein said energy sensor senses light waves.
8. (Currently amended) The device activated by biometric authentication of claim 7, wherein said light wave is infra red light, ultraviolet light, nonvisible light, or visible light.
9. (Currently amended) The device activated by biometric authentication of claim 1, wherein said ~~memory module stores a biometric profile~~ energy emitter emits ultrasonic energy.
10. (Currently amended) The device activated by biometric authentication of claim 1, wherein said memory module includes a code to trigger an actuator.

11. (Currently amended) A device activated by biometric authentication, comprising:

~~an activation device;~~

~~an emitter in communication with said activation device whereby the activation device prompts the emitter to emit energy;~~

~~a sensor for receiving reflected energy emitted by said emitter, the reflected energy corresponding to an internal biometric characteristic of an individual;~~

~~a translator in communication with said sensor for converting said received energy into an electrical signal; and~~

a biometric sensor configured to measure an internal, sub-dermal physiological characteristic of a user from which an internal, sub-dermal biometric marker of said user may be determined, said biometric sensor comprising:

an energy emitter configured to emit an energy signal toward said user,

and

an energy sensor to detect an energy signal returned from said user responsive to said emitted energy signal; and

a memory module comprising a biometric profile of an authorized user of said device in communication with said translator whereby said electrical signal is passed to said memory module biometric sensor, wherein said memory module comprises computer-readable instructions to cause said device to perform a method of authenticating said user, the method comprising:

emitting an energy signal toward said user using said energy emitter,

detecting a returned energy signal from said user responsive to said emitted energy signal, wherein said returned energy signal comprises a measurement of said internal, sub-dermal physiological characteristic of said user,

determining said internal, sub-dermal biometric marker of said user using said returned energy signal;

authenticating said user if said internal, sub-dermal biometric marker corresponds to said biometric profile of said authorized user of said device.

12. (Currently amended) A biometric authentication device, comprising:

a biometric sensor constructed to sense an internal, sub-dermal physiological characteristic of a human from which an internal, sub-dermal biometric marker of said human may be determined, said biometric sensor comprising; [[and]]

an electromagnetic radiation emitter configured to emit electromagnetic radiation toward said human, and

an electromagnetic radiation detector configured to detect electromagnetic radiation returned from said human responsive to said emitted electromagnetic radiation; and

a memory module comprising a biometric profile of an authorized user of said device operatively communicating with said biometric sensor to store information communicated by said biometric sensor,

wherein said biometric authentication device is configured to measure an internal, sub-dermal physiological characteristic of said human using said biometric sensor, to determine an internal, sub-dermal biometric marker of said human therefrom, and to authenticate said human if said internal, sub-dermal biometric marker corresponds to said biometric profile of said authorized user of said device.

13. (Currently amended) The biometric authentication device of claim 12, wherein ~~said biometric sensor comprises:~~

~~an electromagnetic radiation emitter; and~~

~~an electromagnetic energy detector constructed to detect reflected electromagnetic radiation~~

said internal, sub-dermal biometric marker corresponds to an internal, non-volitional physiological process occurring within said human.

14. (Currently amended) The biometric authentication device of claim 12, wherein said emitter emits electromagnetic radiation of a wavelength and energy level to ~~contact~~ measure an internal, sub-dermal physiological characteristic of ~~[[a]]~~ said human.

15. (Currently amended) The biometric authentication device of claim 12, ~~further comprising a translator, said translator in communication with said biometric sensor and said memory module, said translator operating on a signal from said biometric sensor whereby a biometric profile is created and passed to said memory module~~ wherein said emitter emits electromagnetic radiation of a wavelength and an energy level to measure an internal, non-volitional physiological process occurring within said human.

16. (Currently amended) The biometric authentication device of claim 12, wherein said biometric sensor further comprises ~~an energy emission component for emitting energy from said biometric sensor;~~

~~an energy receiver configured to monitor energy directed towards said receiver;~~
~~and~~

~~an activation device configured to activate said energy emission component~~
electromagnetic radiation emitter and said energy receiver electromagnetic radiation detector.

17. (Currently amended) A biometrically activated, substantially planar card ~~activated by biometric authentication~~, comprising:

a ~~substantially planar card having~~ a first surface and an opposing second surface;

a biometric sensor integrally contained within said planar card, said biometric sensor configured to obtain a measurement of an internal, sub-dermal physiological biometric characteristic of a user from which an internal, sub-dermal biometric marker of said user may be determined, said biometric sensor comprising: ~~said biometric sensor having an energy emitter and an energy receiver, said energy emitter embedded within said first surface of said card, said energy receiver embedded within said first surface and positioned next to said energy emitter;~~

an energy emitter embedded within said first surface of said planar card,

and

an energy receiver embedded within said first surface of said planar card;

an activation sensor embedded within said first surface of said planar card, said activation sensor in electronic communication with said biometric sensor whereby said activation sensor controls an on and an off condition of said biometric sensor;

a memory module comprising a biometric profile of an authorized user of said planar card ~~embedded between said first surface and said second surface of~~ within said planar card, said memory module in communication with said biometric sensor ~~and having capacity to store data;~~ and

a data communicator embedded within said ~~second surface of said~~ planar card, said data communicator in communication with said memory module for communicating data to an external source,

wherein said planar card is configured to measure said internal, sub-dermal physiological characteristic of said user using said biometric sensor, to determine said internal, sub-dermal biometric marker of said user therefrom, and to authenticate said user if said internal, sub-dermal biometric marker corresponds to said biometric profile of said authorized user of said planar card.

18. (Currently amended) The card activated by biometric authentication of claim 17, further comprising a data screen embedded on ~~said first~~ a surface of said planar card, said data screen in communication with said memory module, wherein said planar card is configured to activate said data screen responsive to authentication of said user.

19. (Currently amended) A cellular phone activated by biometric authentication, comprising:

a cellular phone having an activated state and an inactivated state controlled by an activation switch;

a biometric sensor embedded within said cellular phone configured to measure an internal, sub-dermal physiological characteristic of a user from which an internal, sub-dermal biometric marker of said user may be determined, said biometric sensor comprising ~~having~~ an energy ~~transmitter~~ emitter and an energy receiver positioned on a surface of said cellular phone; ~~said biometric sensor configured to obtain an internal, sub-dermal biometric characteristic of a user;~~

a ~~biometric~~ memory module comprising a biometric profile of an authorized user of said cellular phone embedded within said cellular phone, said memory module in communication with said biometric sensor, ~~said memory module in communication with and~~ said activation switch ~~of said cellular phone,~~

wherein said cellular phone is configured to measure said internal, sub-dermal physiological characteristic of said user using said biometric sensor, to determine said internal, sub-dermal biometric marker of said user therefrom, and to authenticate said user if said internal, sub-dermal biometric marker corresponds to said biometric profile of said authorized user of said cellular phone.

20. (Currently amended) A method of authenticating a user ~~electromagnetically detecting and comparing a unique internal human biometric marker~~, comprising:

generating an ~~detection~~ electromagnetic signal capable of penetrating ~~[[the]]~~ an epidermis of a user to thereby measure an internal, sub-dermal physiological characteristic of said user, wherein an electromagnetic signal is returned from said user responsive to said generated electromagnetic signal, and wherein said returned electromagnetic signal comprises a measurement of said internal, sub-dermal physiological characteristic of said user and being reflected from an internal human biometric marker to form a detectable reflected signal;

detecting said ~~reflected~~ returned electromagnetic signal;

translating said ~~reflected~~ returned electromagnetic signal into an internal, sub-dermal biometric marker of said user, wherein said internal, sub-dermal biometric marker, is embodied as an electrical impulse characterized by said reflected signal;

transmitting said ~~electrical impulse~~ internal, sub-dermal biometric marker to a memory module having pre-existing stored data thereon, said stored data comprising a biometric profile of an authorized user;

comparing said ~~electrical impulse~~ internal, sub-dermal biometric marker with said ~~pre-existing stored data~~ biometric profile of said authorized user; and

authenticating said user if said internal, sub-dermal biometric marker corresponds to said biometric profile of said authorized user.

21-22. (Canceled)

23. (Currently amended) A method of activating an electrical device based on biometric authentication, comprising:

~~detecting~~ measuring an internal, sub-dermal ~~biometric marker~~ physiological characteristic of a human-being user;

determining an internal, sub-dermal biometric marker of said user using said measurement of said internal, sub-dermal physiological characteristic of said user;

creating a user biometric profile of said user, wherein said user biometric profile comprises said internal, sub-dermal biometric marker ~~based on said internal biometric marker;~~

comparing said user biometric profile to at least one a stored biometric profile, wherein said comparing comprises comparing said internal, sub-dermal biometric marker to said stored biometric profile; and

activating [[an]] said electrical device if said internal, sub-dermal biometric marker of said user biometric profile matches at least one corresponds to said stored biometric profile.

24. (Currently amended) A method for generating a coded signal comprising:

- emitting an ~~epidermal~~ sub-dermal penetrating electromagnetic radiation beam directed to an individual;
- reflecting said beam off internal, sub-dermal physiological reflective matter of said individual to produce a detectable return signal;
- detecting said ~~reflected~~ return signal;
- determining an internal, sub-dermal biometric marker of said individual using said return signal;
- comparing a ~~profile generated from said reflected signal~~ said internal, sub-dermal biometric marker to a stored biometric profile previously developed from said individual;
- and
- generating a coded signal ~~upon a match occurring between~~ if said ~~generated profile~~ internal, sub-dermal biometric marker ~~and said~~ corresponds to said stored biometric profile.

25-26. (Canceled)

27. (Currently amended) The ~~biometrically activated~~ device of claim 1, wherein said internal, sub-dermal biometric marker ~~internal physiological characteristic~~ corresponds to one selected from the group consisting of a histological trait, bone density, cardiac rhythm, diacritic notch reading, blood oxygen level, capillary density, glucose level, hematocrit level, and sub-dermal layer analysis.

28. (New) The device of claim 1, wherein said biometric sensor is configured to measure a plurality of different internal, sub-dermal physiological characteristics of said user.

29. (New) The device of claim 28, wherein said device is configured to select one of said plurality of different internal, sub-dermal physiological characteristics of said user, to measure said selected one, to determine an internal, sub-dermal biometric marker using said measurement of said selected one of said plurality of different internal, sub-dermal physiological characteristics of said user, and to authenticate said user if said internal, sub-dermal biometric marker corresponds to said biometric profile of said authorized user of said device.

30. (New) The device of claim 29, wherein said emitter is configured to prevent identification of said selected one of said plurality of different internal, sub-dermal physiological characteristics measured by said biometric sensor.

31. (New) The device of claim 28, wherein said device is configured to measure a selected plurality of said plurality of different internal, sub-dermal physiological characteristics of said user using said biometric sensor, to derive a selected plurality of internal, sub-dermal biometric markers of said user using said selected plurality of measurements, and to authenticate said user if each of said selected plurality of internal, sub-dermal biometric markers corresponds to said biometric profile of said authorized user.

32. (New) The device of claim 11, wherein said biometric sensor is capable of measuring a plurality of different internal, sub-dermal physiological characteristics of said user, and wherein said biometric sensor is configured to prevent identification of said plurality of different internal, sub-dermal physiological characteristics of said user measured by said biometric sensor.

33. (New) The device of claim 32, wherein the method further comprises;
- selecting one of said plurality of different internal, sub-dermal physiological characteristics of said user;
 - emitting energy from said energy emitter to measure said selected one of said plurality of different internal, sub-dermal physiological characteristics of said user;
 - receiving a returned energy signal from said user responsive to said emitted energy, wherein said returned energy signal comprises a measurement of said selected one of said plurality of different internal, sub-dermal biometric characteristics of said user;
 - determining an internal, sub-dermal biometric marker of said user using said returned energy signal; and
 - authenticating said user if said internal, sub-dermal biometric marker corresponds to said biometric profile of said authorized user of said device.

34. (New) The device of claim 32, wherein the method further comprises;
- selecting a first one of said plurality of different internal, sub-dermal physiological characteristics and a second one of said plurality of different internal, sub-dermal physiological characteristics,
 - emitting a first energy signal from said energy emitter to measure said first one of said plurality of different internal, sub-dermal physiological characteristics of said user;
 - receiving a returned first energy signal from said user responsive to said first emitted energy signal comprising a measurement of said first one of said plurality of different internal, sub-dermal physiological characteristic of said user;
 - determining a first internal, sub-dermal biometric marker of said user using said returned first energy signal;
 - emitting a second energy signal from said energy emitter to measure said second one of said plurality of different internal, sub-dermal physiological characteristics of said user;
 - receiving a returned second energy signal from said user responsive to said second emitted energy signal comprising a measurement of said second one of said plurality of different internal, sub-dermal physiological characteristic of said user;
 - determining a second internal, sub-dermal biometric marker of said user using said returned second energy signal; and
 - authenticating said user if said first biometric marker and said second biometric marker correspond to said biometric profile of said authorized user of said device.